

# MATERIALS AND STRUCTURE FOR A HIGH RELIABILITY BGA CONNECTION BETWEEN LTCC AND PB BOARDS

## ABSTRACT OF THE DISCLOSURE

5           A ceramic circuit structure comprising a plurality of ceramic layers and at least  
one electronic component embedded within the plurality of ceramic layers. Within a first  
one of the ceramic layers is a via that passes through the ceramic layer. A contact pad is  
formed on a surface of the ceramic layer. A barrier cap is formed between the via and the  
contact pad. A dielectric ring covers a peripheral portion of the contact pad and an  
10 adjacent portion of the dielectric material layer surface immediately surrounding the  
contact pad, such that any solder that is applied to the contact does not contact the  
peripheral portion of the contact pad or the ceramic material.

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